WM-FS393/FS395

SERVICE MANUAL

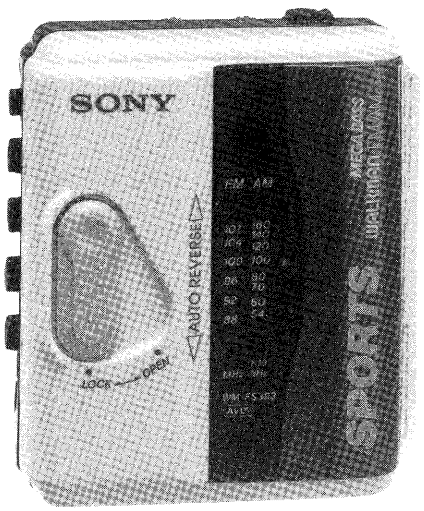

Photo : WM-FS393

US Model
Canadian Model
AEP Model
UK Model
WM-FS393/FS395
E Model
WM-FS393

Model Name Using Similer Mechanism	NEW
Tape Transport Mechanism Type	MF-WMFS395

SPECIFICATIONS

Radio FM: 65.0 – 108 MHz (Eastern and Central European countries, CIS); 87.5 – 108 MHz (Italy, Saudi Arabia); 87.6 – 108 MHz (Canada); 87.6 – 107.9 MHz (Other countries)
AM: 526.5 – 1,606.5 kHz (Italy, Saudi Arabia); 530 –1,710 kHz (Canada); 531 – 1,602 kHz (Euroupe); 530 – 1,605 kHz (Other countries)

Power requirements
- 3 V DC batteries R6 (AA) x 2

Battery life (approximate hours)

Sony Alkaline AM3 (N)	Sony SUM-3 (NS)
7 hrs. (playback) 30 hrs. (radio)	3 hrs. (playback) 13 hrs. (radio)

Dimensions
104.4 x 120.5 x 50 mm (w/h/d)
(4 ⅛ x 4 ¾ x 2 in.) incl. projecting parts

Mass 300 g (10.6 oz) incl. batteries

Supplied accessories
- Stereo headphones (1)
- Belt clip (1)
- Hand strap (1) (FS395)
- Strap loop (1) (FS395)

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.

Design and specifications are subject to change without notice.

使用時は添付資料も参照のこと
Refer to the additional documents.

RADIO CASSETTE PLAYER

SONY®

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Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

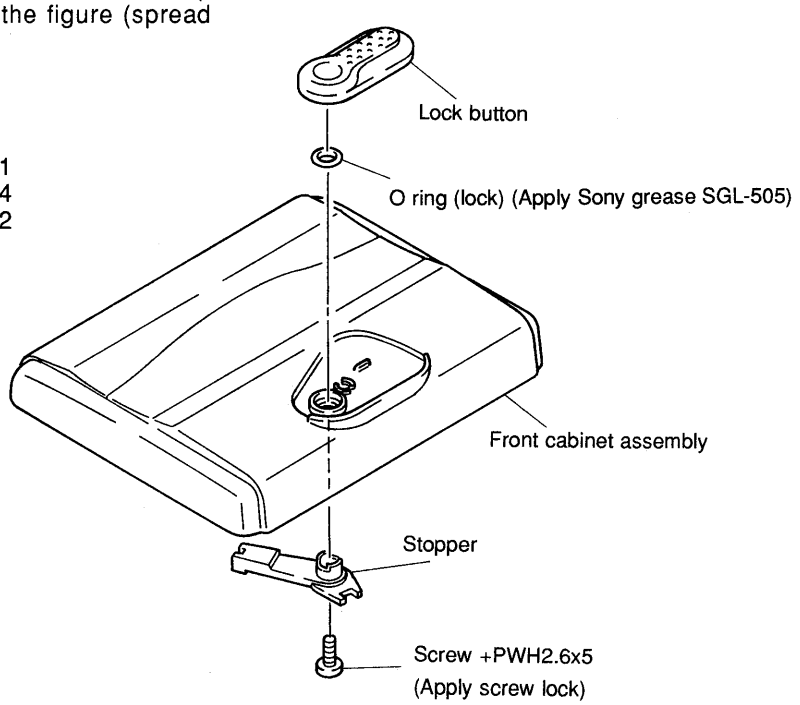
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor ofthe circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

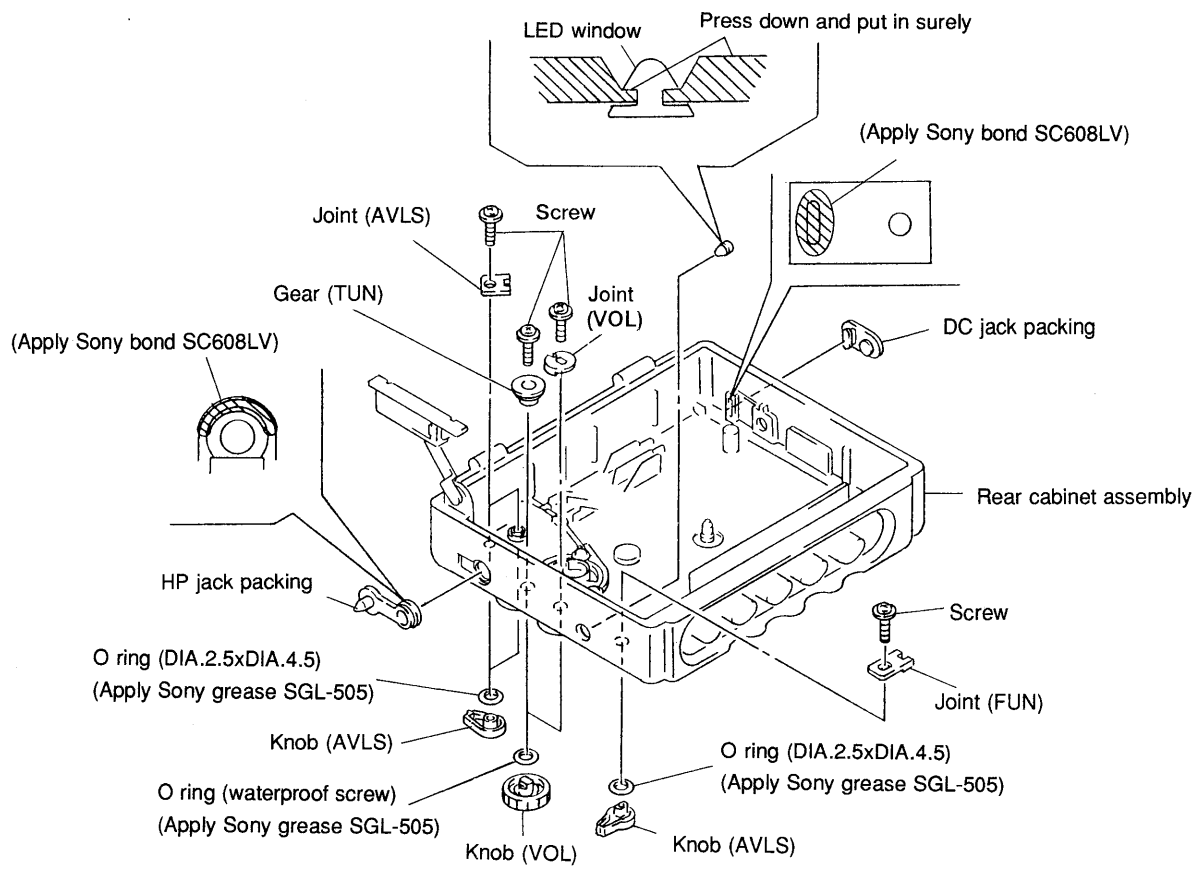
SECTION 1
SERVICE NOTE

WATERPROOFED SECTION

NOTE : In case the parts in the figure are removed for repair, treat them to protect from water drop following the instructions in the figure (spread grease, bond etc.).

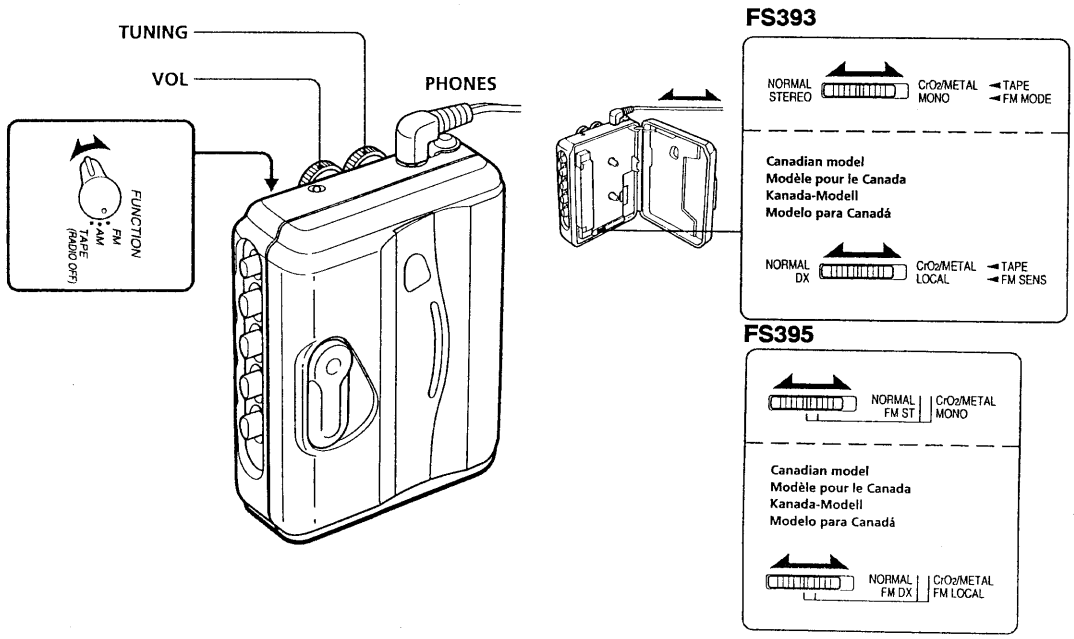
- Screw lock : 7-432-114-11
- Sony grease SGL-505 : 7-662-010-04
- Sony bond SC608LV : 7-432-912-52

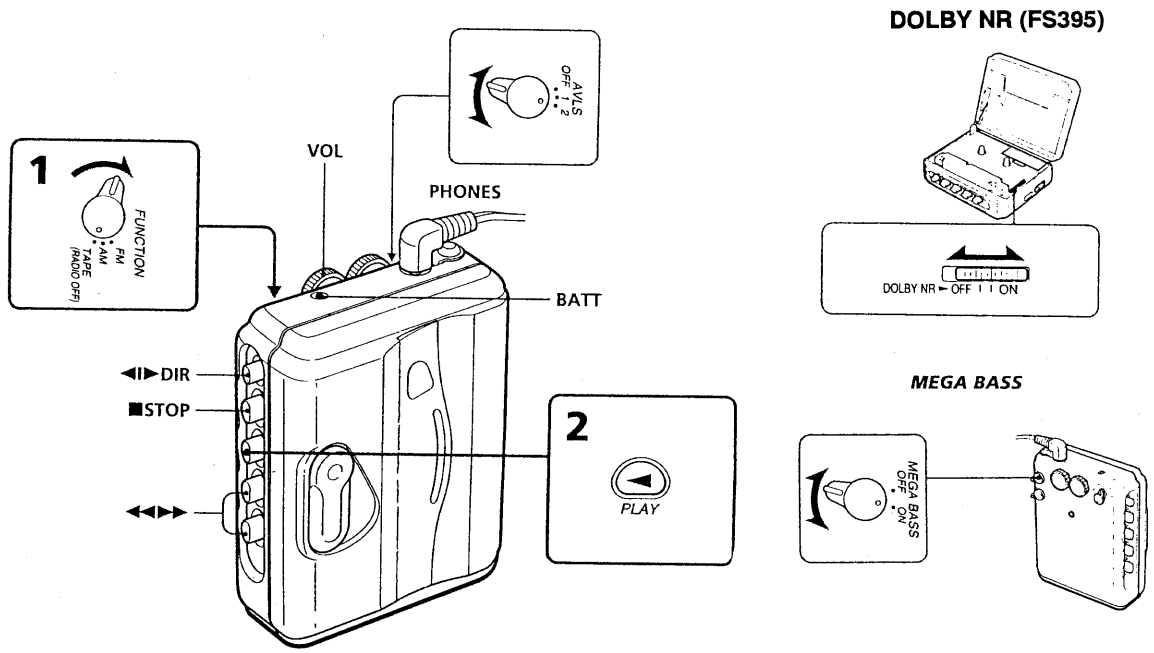


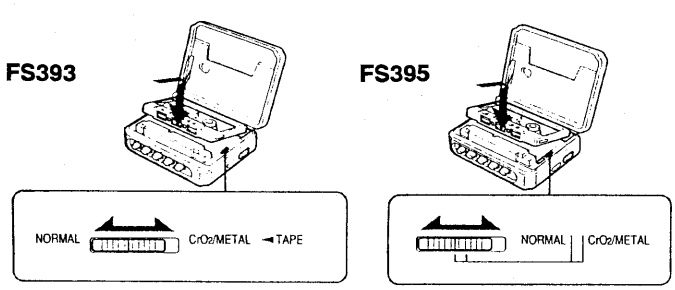


SECTION 2
GENERAL

This section is extracted from instruction manual.



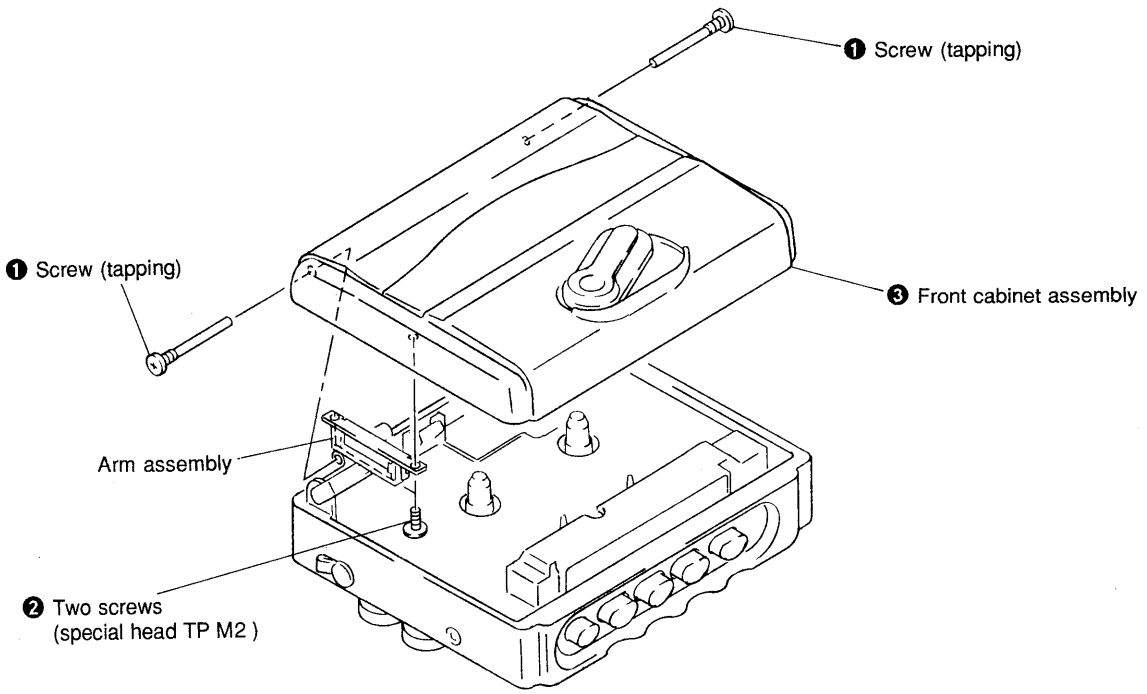




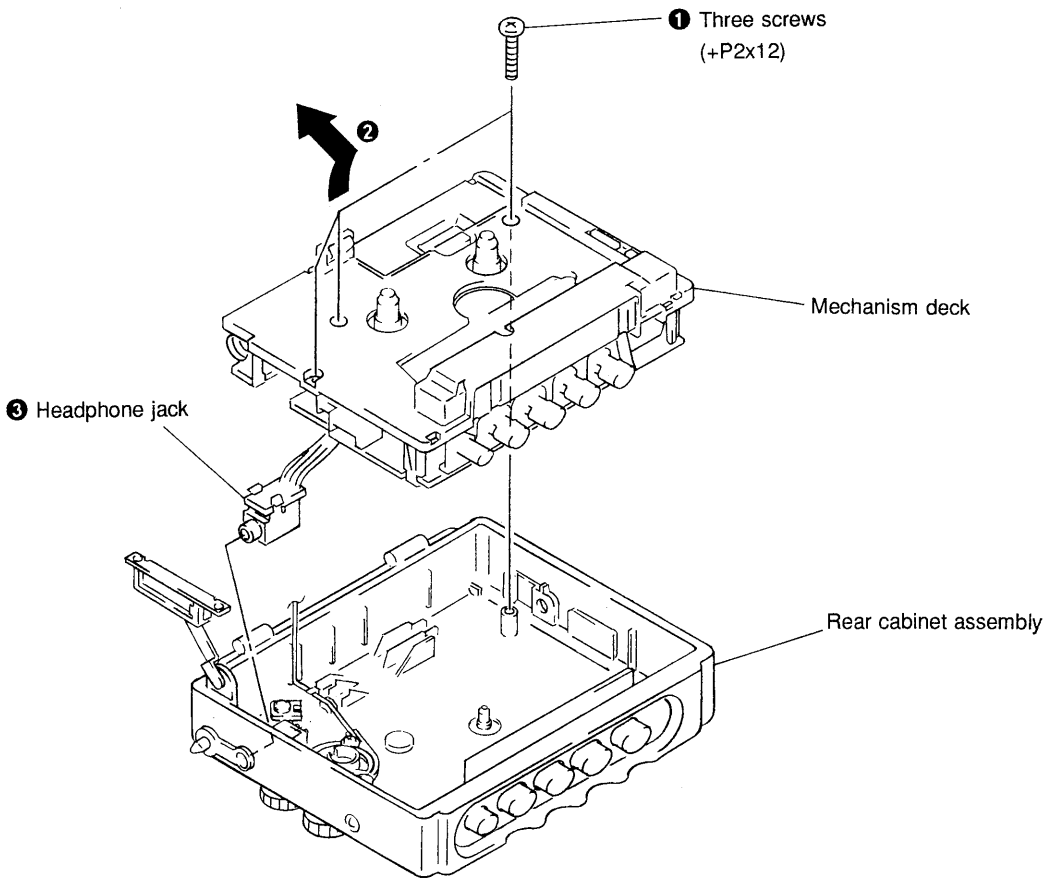
SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

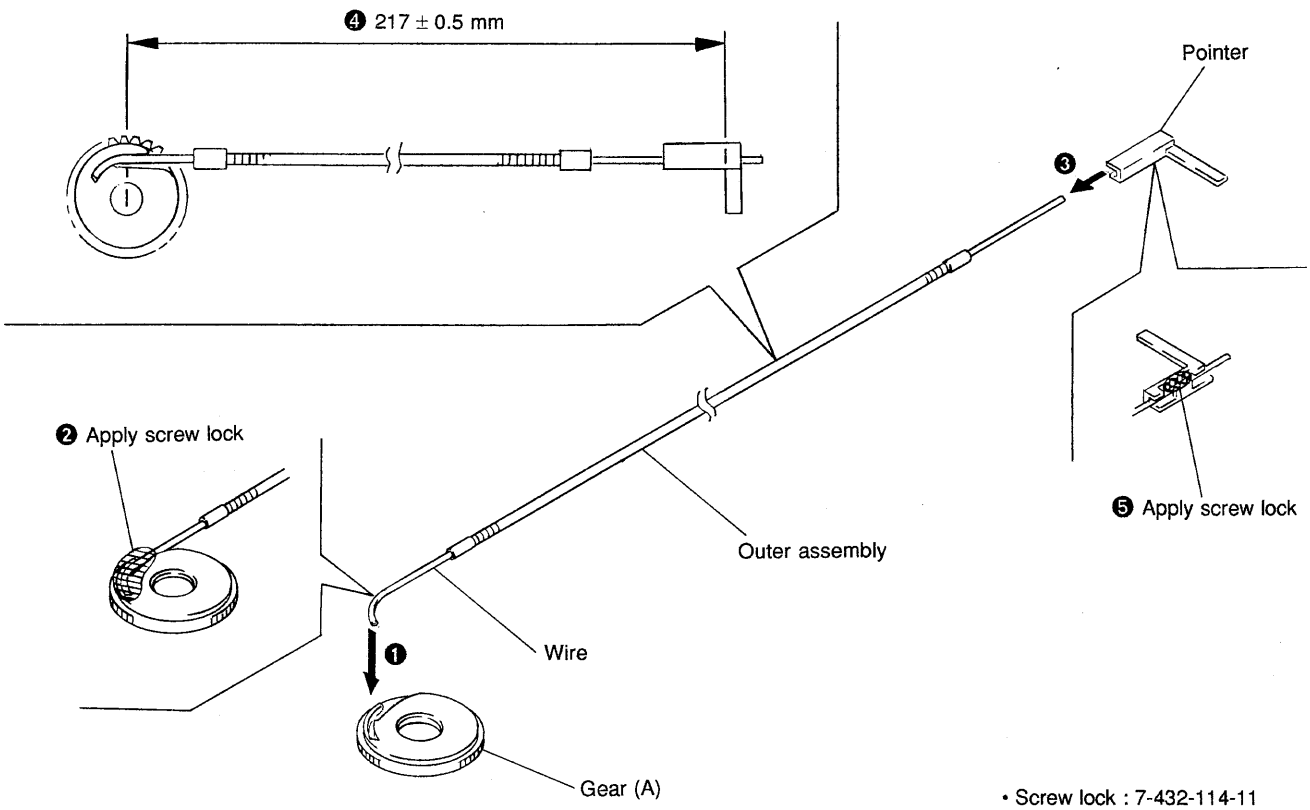
3-1. FRONT CABINET



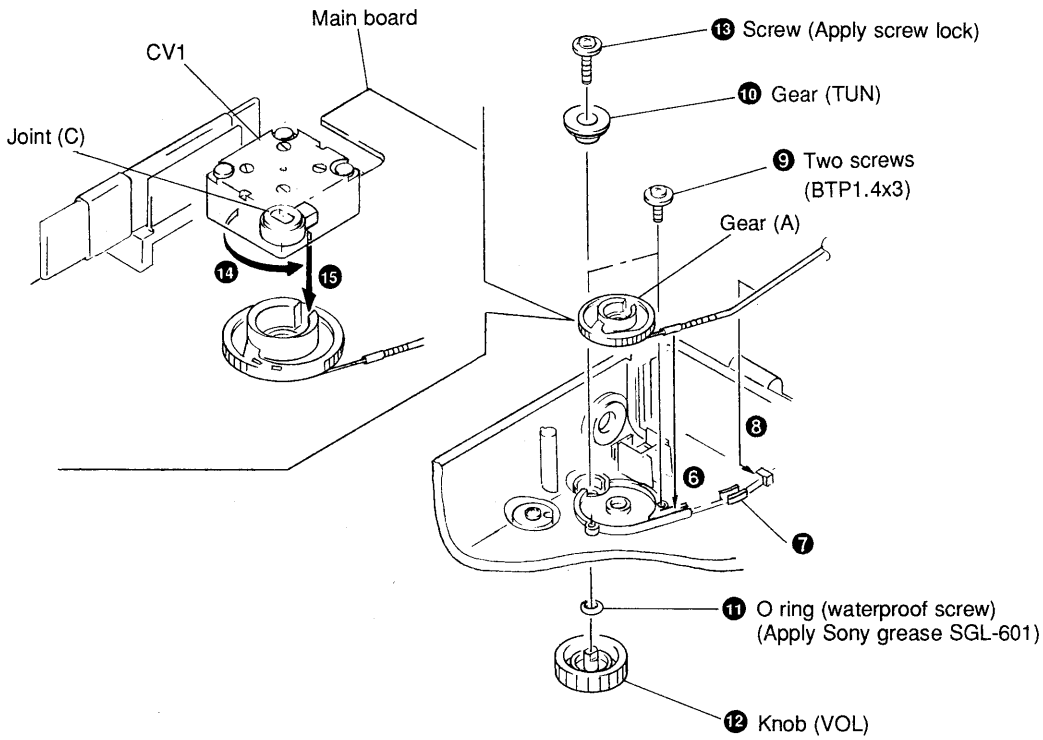
3-2. MECHANISM DECK

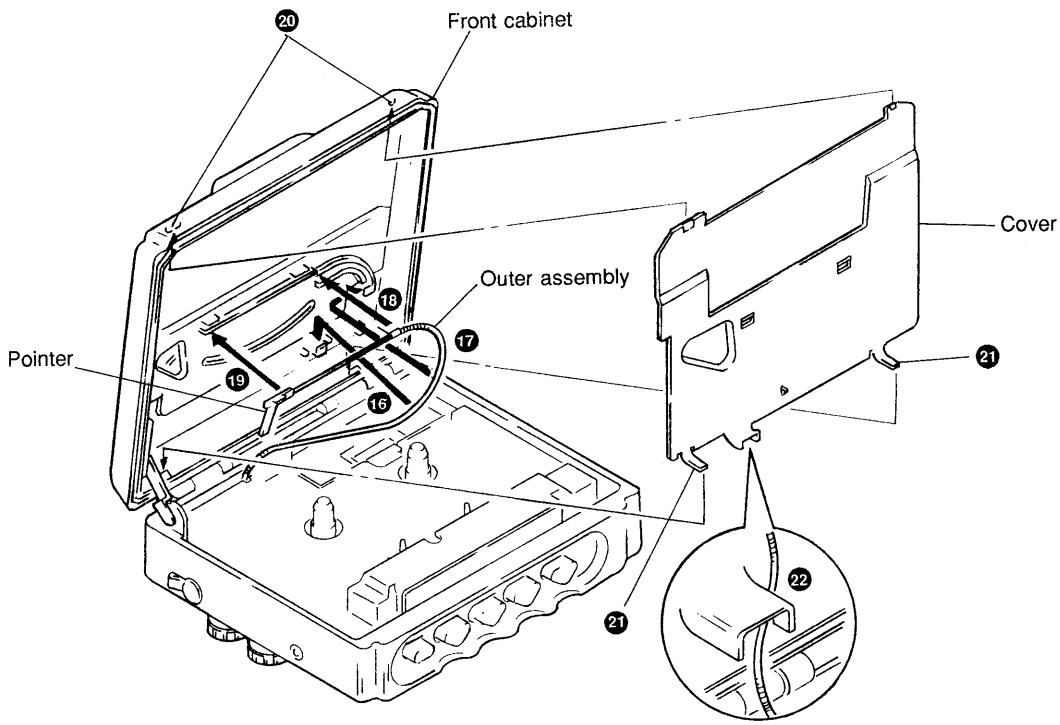


3-3. POINTER RACK SETTING



• Screw lock : 7-432-114-11


Main board
CV1
Joint (C)
⓭ Screw (Apply screw lock)
⓾ Gear (TUN)
⓽ Two screws
(BTP1.4x3)
Gear (A)
⓮
⓯
⓼
⓺
⓻
⓫ O ring (waterproof screw)
(Apply Sony grease SGL-601)
⓬ Knob (VOL)


⓴
Front cabinet
Cover
Outer assembly
⓲
⓱
Pointer
⓳
⓰
⓳
⓲

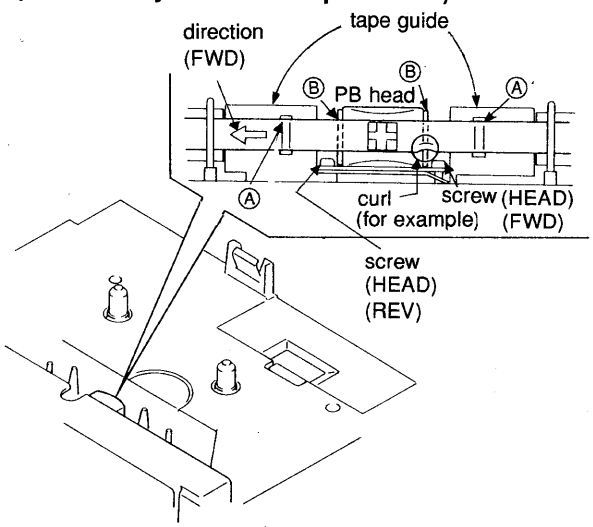
SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   playback head　　pinch roller
   capstan　　rubber belts
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5V) unless otherwise noted.

Playback Head Height Adjustment (Note on Playback Head Replacement)



1. Turn the screw (HEAD) so that the Ⓑ - Ⓑ′ line of HEAD GUIDE becomes appraximately paraller to the Ⓐ - Ⓐ′ line of TAPE GUIDE.
2. When there is a tape curl on HEAD GUIDE (Ⓑ, Ⓑ′) using a mirror cassette, turn the screw (HEAD) to eliminate the tape curl.
   For example in the figure :
   (The curl marked O is eliminated by turning clockwise the screw (HEAD) (FWD).)
3. Check in the REV mode by the same way as in the FWD mode.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	20 — 42 g • cm (0.28 — 0.58 oz • inch)
FWD Back Tension		1 — 3 g • cm (0.01 — 0.04 oz • inch)
RVS	CQ-102RC	20 — 42 g • cm (0.28 — 0.58 oz • inch)
RVS Back Tension		1 — 3 g • cm (0.01 — 0.04 oz • inch)
FF, REW	CQ-201B	more than 50 g • cm (more than 0.69 oz • inch)

4-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

- Supplied voltage : 2.5V
- Switch and control position
  MODE switch : FM ST.....EXCEPT US, Canadian model
  FM SENS switch : DX.....US, Canadian model
  TAPE switch : NORMAL
  MEGA BASS switch : OFF
  VOLUME control : maximum
  DOLBY NR switch : OFF (FS395)

Tape section

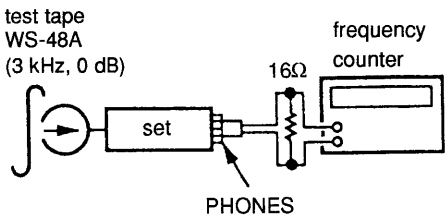
FUNCTION switch : TAPE

Test tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment

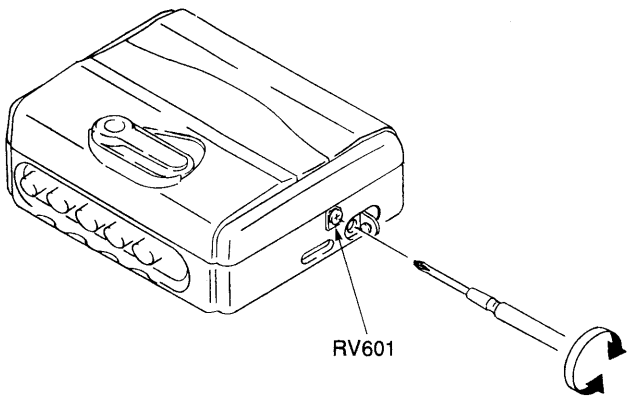
Tape speed adjustment

Procedure :



Play back WS-48A (tape center portion) in reverse mode. Adjust the RV601 so that the frequency counter reads 3,000 Hz ± 15Hz.

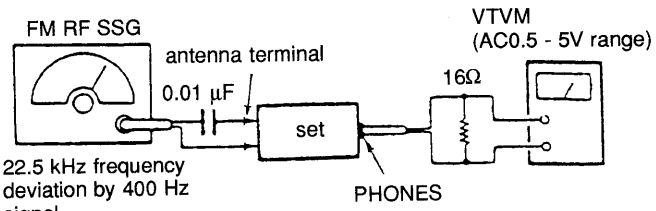
Adjustment Location :



Radio section

FM section

FUNCTION switch : FM



- Repeat the procedure in each adjustment several times since L3, 2 affects CT1-3, 2 and CT1-3, 2 affects L3, 2. Both the frequency coverage and tracking adjustments should end with the final adjustment of the trimmer capacitors.

FM Frequency Coverage Adjustment

Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	86.5 MHz ((87.35 MHz)) [64.00 MHz]	L3	maximum
f maximum	109.5 MHz ((108.25 MHz)) [109.5 MHz]	CT1-3	

(( )) : IT, EA model, [ ] : EE model

FM Tracking Adjustment

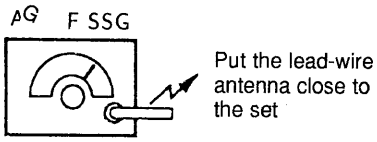
SG and set frequency	Adjustment part	Reading on VTVM
86.5 MHz ((87.35 MHz)) [64.00 MHz]	L2	maximum
109.5 MHz ((108.25 MHz)) [109.5 MHz]	CT1-2	

(( )) : IT, EA model, [ ] : EE model

- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.
- Abbreviation
  IT : Italian model
  EE : East European model
  EA : Saudi Arabia model

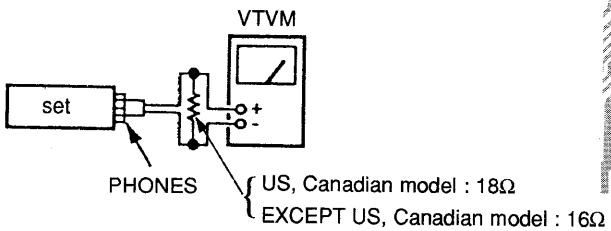
AM section

FUNCTION switch : AM



30% amplitude modulation by 400 Hz signal
Output level : as low as possible

- Repeat the procedure in each adjustment several times since L4, 1 affects CT1-4, 1 and CT1-4, 1 affects L4, 1. Both the frequency coverage and tracking adjustments should end with the final adjustment of the trimmer capacitors.



AM IF Alignment

SG and set frequency	Adjustment part	Reading on VTVM
455 kHz	T1	maximum

AM Frequency Coverage Adjustment

Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	520 kHz ((520 kHz)) [516.5 kHz]	L4	maximum
f maximum	1,750 kHz ((1,680 kHz)) [1,631.5 kHz]	CT1-4	

(( )) : AEP, UK, G, E, IT, EE model, [ ] : IT, EA model

AM Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
600 kHz ((800 kHz))	L1	maximum
1,400 kHz ((1,300 kHz))	CT1-1	

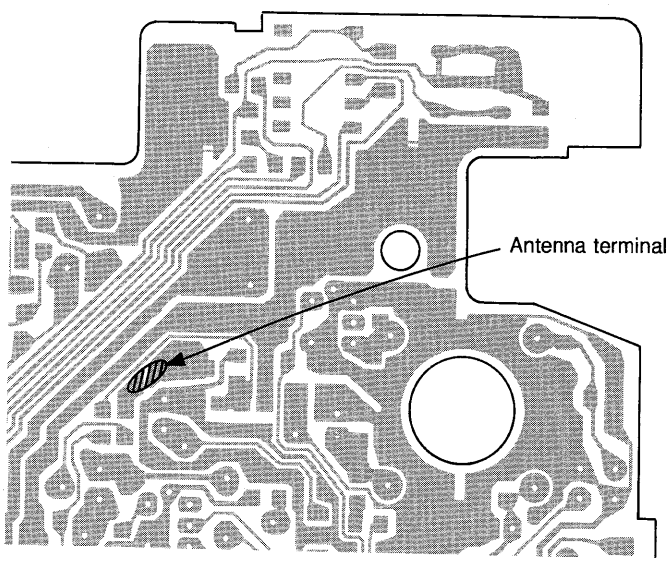
(( )) : IT, EE, EA model

- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

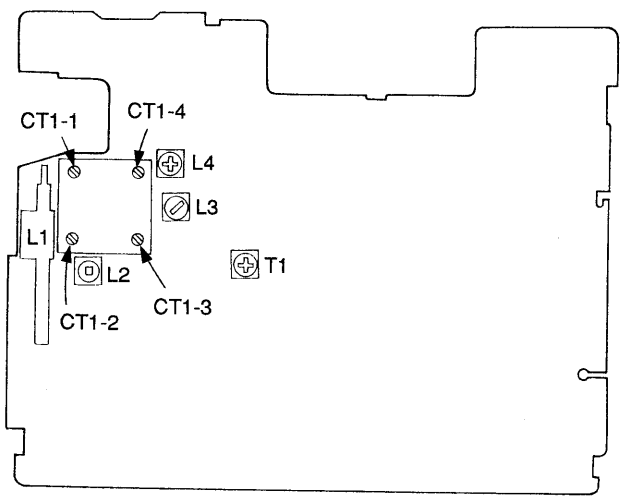
- Abbreviation
  G : German model
  IT : Italian model
  EE : East European model
  EA : Saudi Arabia model

Adjustment Location :

[MAIN BOARD] (Conductor Side)

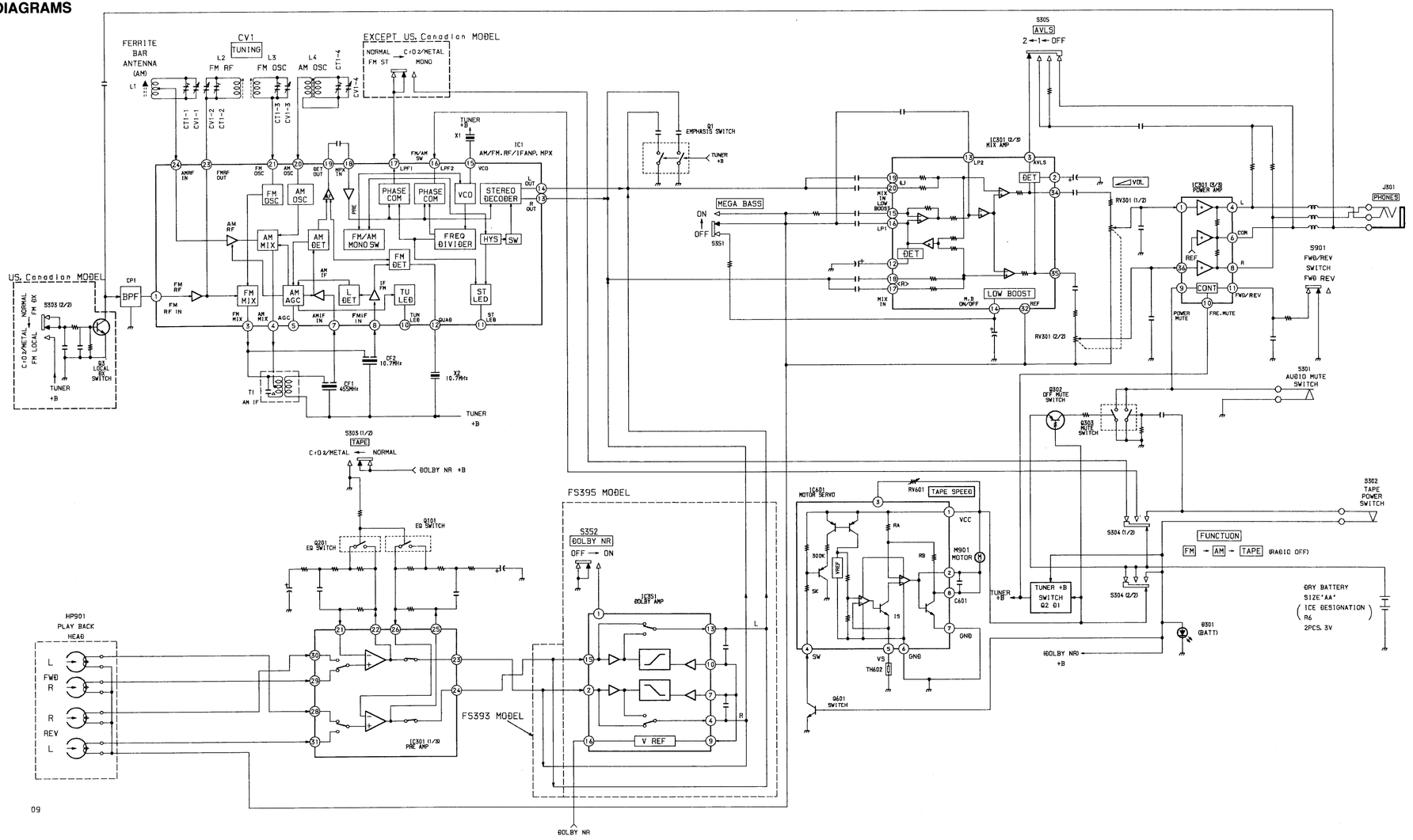


[MAIN BOARD] (Component Side)



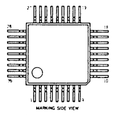
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM

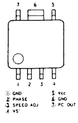


• Semiconductor Lead Layouts

LA4582BM



MM1038AFF



NJM2063AM

TA8122AF

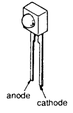
RN1304
UN2216

XN1215
XN1501

2SA1162G
2SC2223

MA732

BR4371F



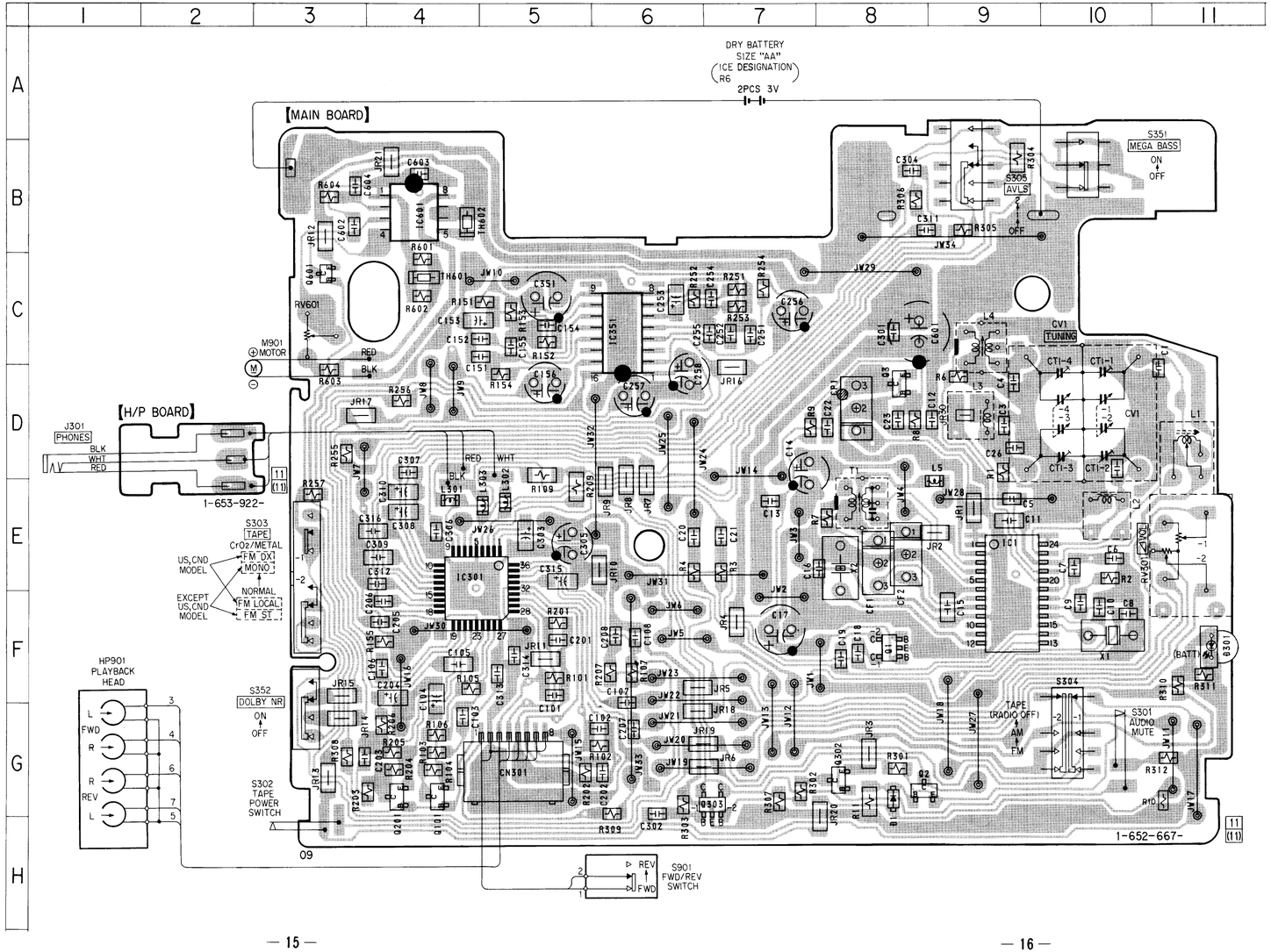
5-2. PRINTED WIRING BOARD

• **Semiconductor Location**

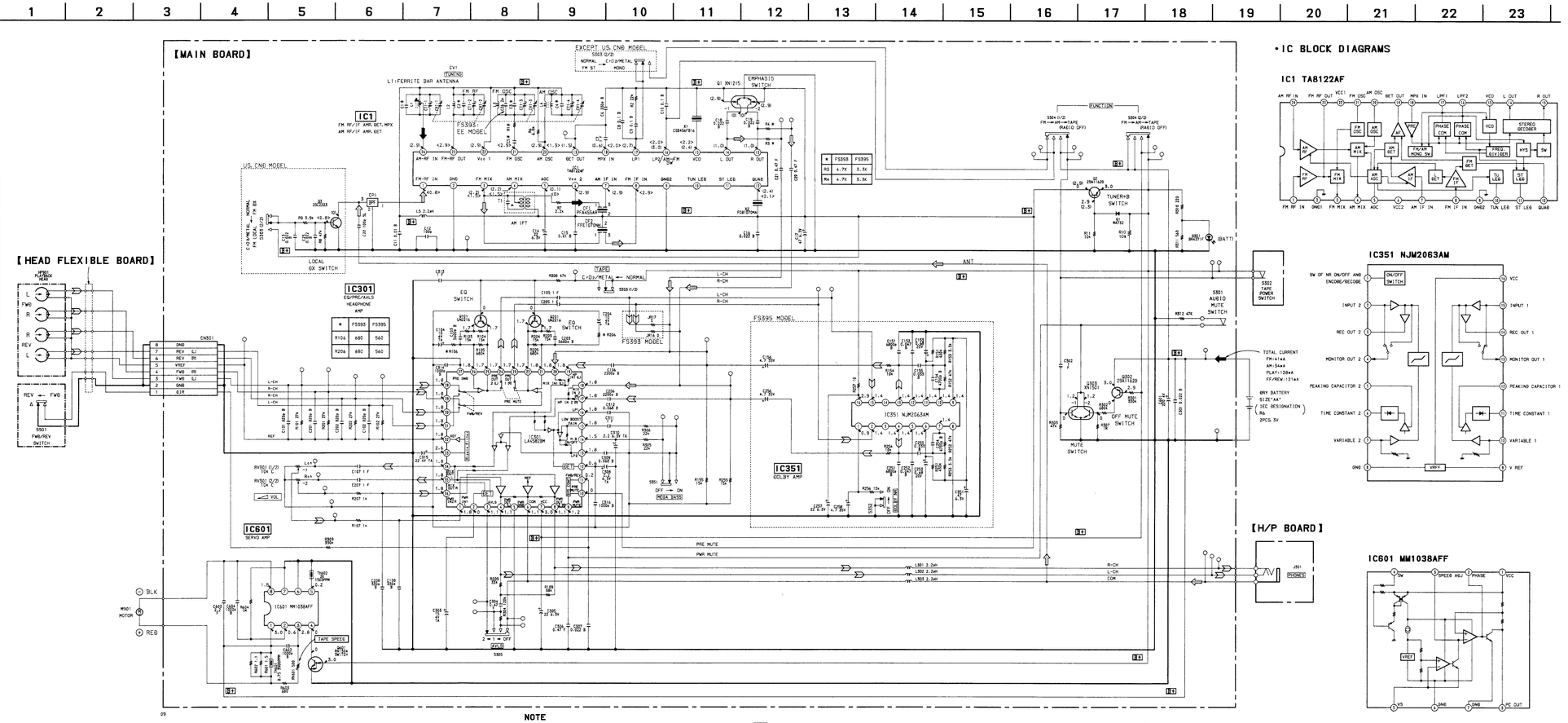
Ref. No.	Location
D1	G-8
D301	F-11
IC1	E-9
IC301	E-4
IC351	C-6
IC601	B-4
Q1	F-8
Q2	G-8
Q3	D-8
Q101	G-4
Q102	G-4
Q302	G-8
Q303	G-7
Q601	C-3

Note:

- ●——: parts extracted from the conductor side.
- : indicates side identified with part number.
- △: internal component.
- ▨: Pattern from the side which enable seeing.
- Abbreviation
  CND : Canadian model.



5-3. SCHEMATIC DIAGRAM



	C1	C2	C3	C4	R1	C5
US, CNB	5P (SL)	22P (SL)	27P (RH)	8P (CH)	1Ω	22P (CH)
E, EA	6P (SL)	22P (SL)	30P (RH)	10P (UJ)	1Ω	22P (CH)
AEP, UK, G	6P (SL)	22P (SL)	27P (PH)	10P (UJ)	1Ω	22P (CH)
IT	8P (SL)	22P (TH)	36P (RH)	16P (UJ)	1Ω	27P (CH)
EE	6P (SL)	10P (TH)	12P (TH)	10P (UJ)	0	47P (CH)

NOTE

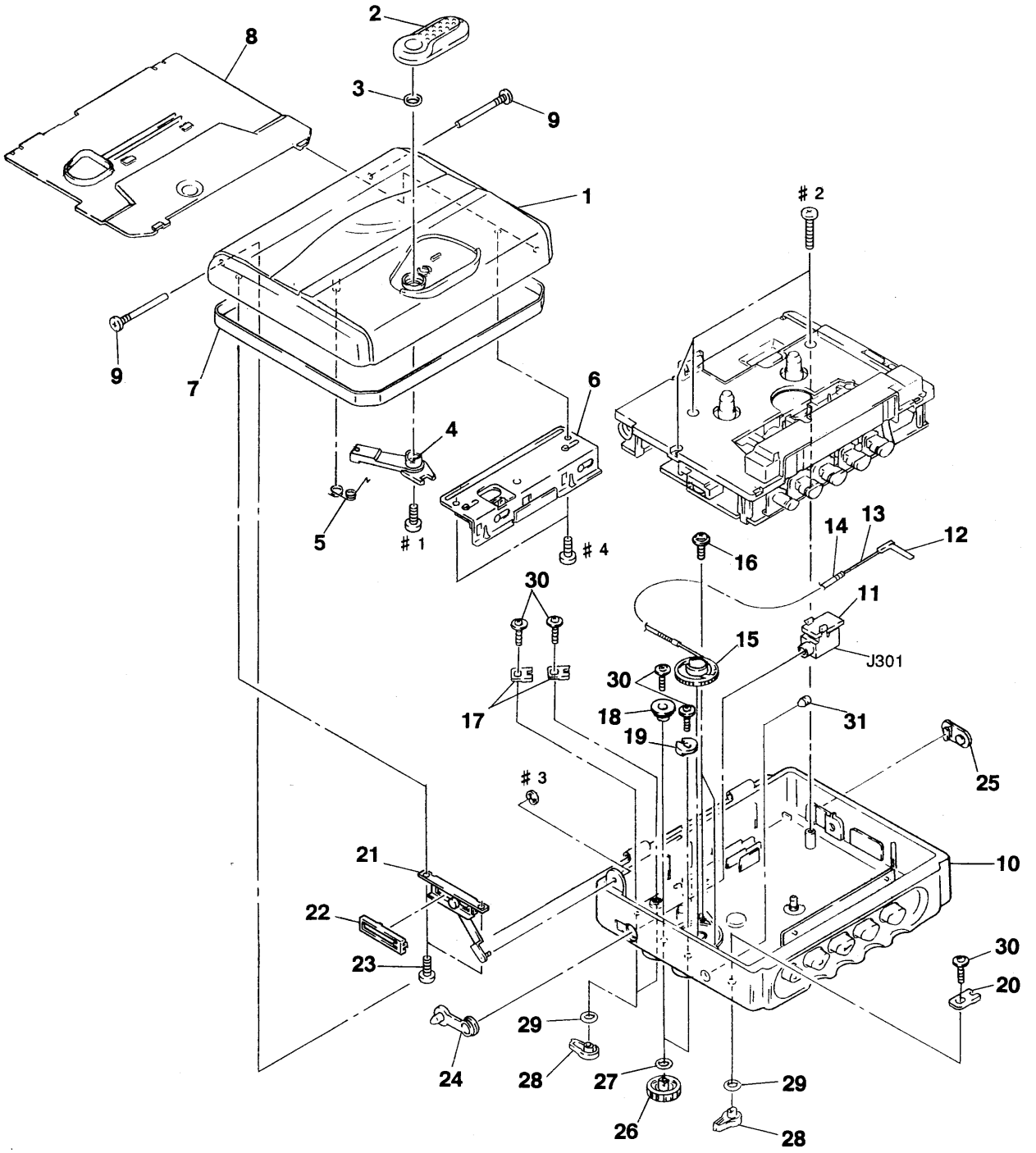
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground no mark: PB
  ( ): AM
  < >: FM
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Power voltage is dc 3.0V and fed with regulated dc power supply from battery terminal.
- Total current is measured with no cassette installed.
- Abbreviation
  CNB : Canadian model.
  G : German model.
  IT : Italian model.
  EE : East European model.
  EA : Saudi Arabia model.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : PB

SECTION 6
EXPLODED VIEWS

NOTE:

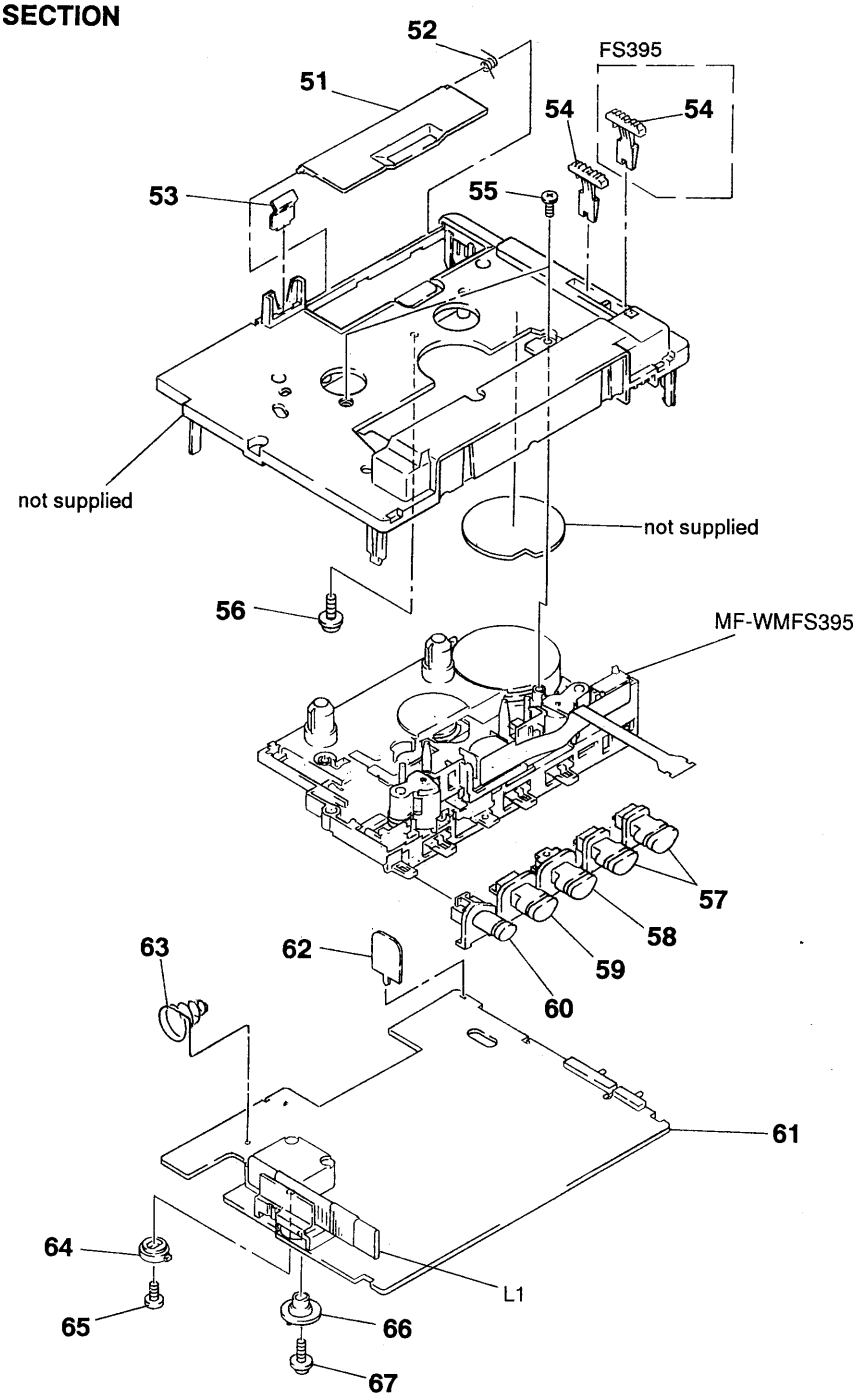
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts color Cabinet's color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  G : German model
  IT : Italian model
  EE : East European model
  EA : Saudi Arabia model

6-1. FRONT AND REAR CABINET SECTION



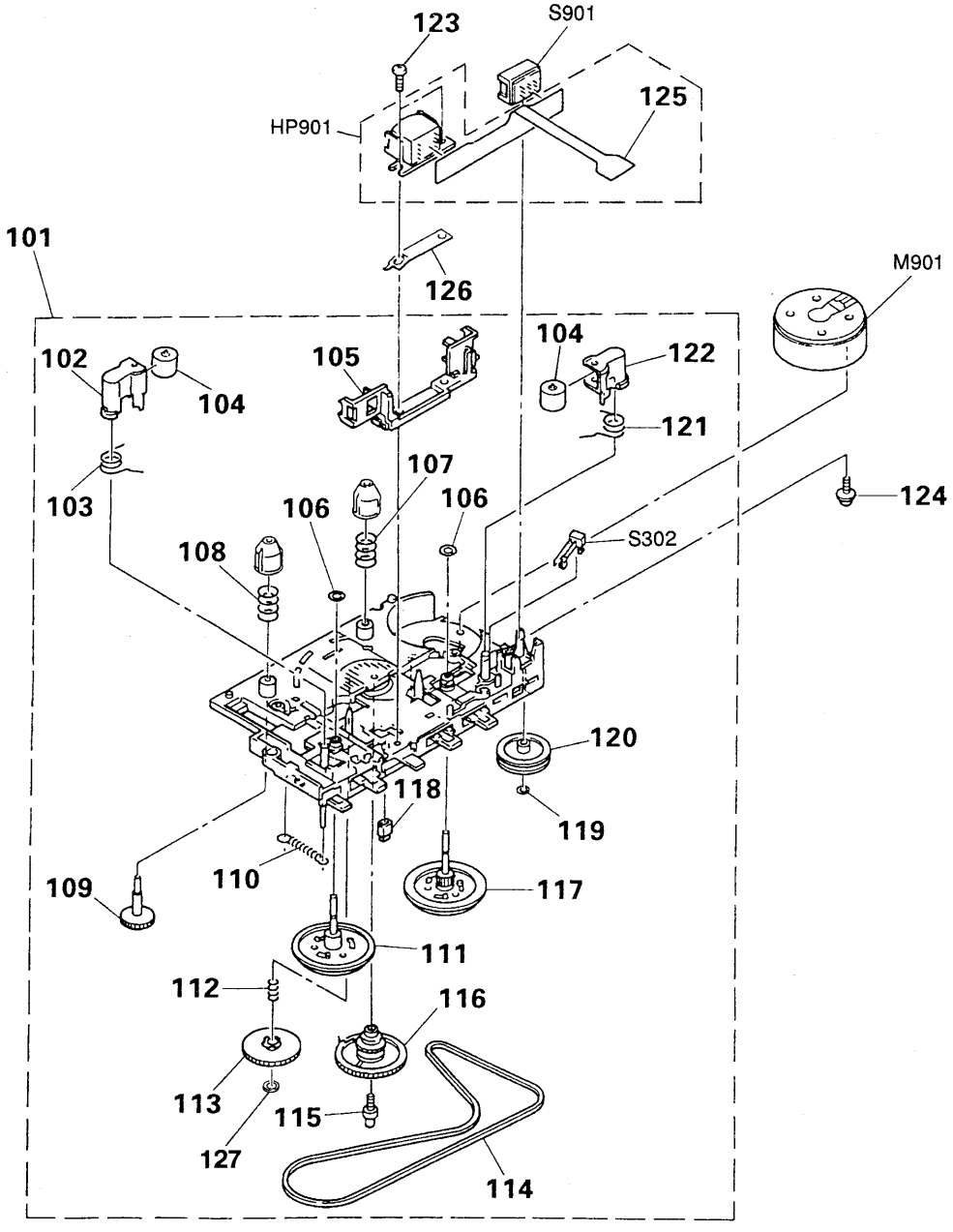
Ref. No.	Part No.	Description	Remark
1	X-3368-371-1	CABINET (FRONT) ASSY (YELLOW) (393:IT, EA)	
1	X-3368-372-1	CABINET (FRONT) ASSY (YELLOW) (393:AEP, UK, E, G)	
1	X-3368-373-1	CABINET (FRONT) ASSY (GRAY) (393:US)	
1	X-3368-374-1	CABINET (FRONT) ASSY (YELLOW, GREEN, VIOLET) (393:CND)	
1	X-3368-383-1	CABINET (FRONT) ASSY (YELLOW) (395:AEP, UK, G)	
1	X-3368-384-1	CABINET (FRONT) ASSY (GRAY) (395:US)	
1	X-3368-385-1	CABINET (FRONT) ASSY (YELLOW) (395:CND)	
1	X-3368-386-1	CABINET (FRONT) ASSY (YELLOW) (395:IT)	
1	X-3369-001-1	CABINET (FRONT) ASSY (YELLOW) (393:EE)	
2	3-913-652-01	BUTTON, LOCK (ORANGE) (EXCEPT US)	
2	3-913-652-11	BUTTON, LOCK (VIOLET) (US)	
3	3-913-609-01	RING (LOCK), 0	
4	3-913-610-01	STOPPER	
5	3-913-608-01	SPRING (LOCK), COIL	
6	X-3368-464-1	SHAFT ASSY	
7	3-381-902-01	PACKING, CABINET	
8	3-913-657-01	COVER	
9	3-386-373-01	SCREW, TAPPING	
10	X-3368-370-1	CABINET (REAR) ASSY (393:US, CND)	
10	X-3368-381-1	CABINET (REAR) ASSY (395:US, CND)	
10	X-3368-382-1	CABINET (REAR) ASSY (395:G)	
10	X-3368-460-1	CABINET (REAR) ASSY (393:G)	
10	X-3369-002-1	CABINET (REAR) ASSY (395:AEP, UK, IT)	
10	X-3369-003-1	CABINET (REAR) ASSY (393:AEP, UK, IT, EE)	
10	X-3369-004-1	CABINET (REAR) ASSY (393:E, EA)	
* 11	1-653-922-11	H/P BOARD	
12	3-913-602-01	POINTER	
13	3-913-604-01	WIRE	
14	X-3368-376-1	OUTER ASSY	
15	3-351-171-01	GEAR (A)	
16	3-381-629-11	SCREW, (B) (1.4X3), TAPPING	
17	3-913-611-01	JOINT (AVLS)	
18	3-913-619-01	GEAR (TUN)	
19	3-913-612-01	JOINT (VOL)	
* 20	3-378-016-01	JOINT (FUN)	
21	X-3365-453-1	ARM ASSY	
22	3-375-281-01	SPRING, CLICK	
23	3-909-342-01	SCREW	
24	3-386-371-01	PACKING, HP JACK	
25	3-386-372-01	PACKING, DC JACK	
26	3-913-618-01	KNOB (VOL)	
27	3-913-607-01	RING (WATERPROOF SCREW), 0	
28	3-904-785-11	KNOB (AVLS)	
29	3-326-560-02	RING (DIA. 2.5XDIA. 4.5), 0	
30	3-915-700-01	SCREW	
31	3-914-156-01	WINDOW, LED	
J301	1-565-376-11	JACK, HEADPHONE (PHONES)	

6-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
51	3-381-907-01	LID, BATTERY CASE	
52	3-353-712-01	SPRING, TORSION	
53	3-904-803-01	DETENT, CASSETTE	
54	3-913-655-01	KNOB (MODE)	
55	3-383-671-11	SCREW (2X5)	
56	3-389-713-01	SCREW (2X4)	
57	3-913-614-01	BUTTON (FF)	
58	3-913-615-01	BUTTON (PLAY)	
59	3-913-616-01	BUTTON (STOP)	
60	3-913-613-01	BUTTON (DIR)	
* 61	A-3060-956-A	MAIN BOARD, COMPLETE (393:IT)	
* 61	A-3060-957-A	MAIN BOARD, COMPLETE (393:AEP, UK, E, G, EA)	
* 61	A-3060-958-A	MAIN BOARD, COMPLETE (393:US, CND)	
* 61	A-3060-959-A	MAIN BOARD, COMPLETE (395:IT)	
* 61	A-3060-968-A	MAIN BOARD, COMPLETE (395:US, CND)	
* 61	A-3060-969-A	MAIN BOARD, COMPLETE (395:AEP, UK, G)	
* 61	A-3060-976-A	MAIN BOARD, COMPLETE (393:EE)	
62	3-904-600-01	TERMINAL BOARD, BATTERY	
63	3-913-622-01	SPRING, BATTERY COIL	
64	3-351-169-01	JOINT (C)	
65	3-386-374-01	SCREW (1.7)	
66	3-334-019-01	JOINTER (B)	
67	3-911-203-01	SCREW	
L1	1-501-692-11	ANTENNA, FERRITE-ROD (MW) (US, CND)	
L1	1-501-693-11	ANTENNA, FERRITE-ROD (MW) (AEP, UK, G, IT, E, EA, EE)	

6-3. MECHANISM DECK SECTION (MF-WMFS395)



Ref. No.	Part No.	Description	Remark
101	X-3368-485-1	CHASSIS (SS) ASSY	
102	3-906-023-01	ARM (PINCH) (R)	
103	3-906-024-01	SPRING	
104	3-905-717-01	PINCH ROLLER (R)	
105	3-905-733-01	GUIDE, TAPE	
106	3-381-882-01	WASHER (FWF STOPPER)	
107	3-905-722-01	SPRING (T REEL)	
108	3-905-723-01	SPRING (S REEL)	
109	3-905-709-01	GEAR (REEL) (L)	
110	3-905-729-01	SPRING (DIR)	
111	3-905-696-01	FW (R) ASSY	
112	3-381-868-01	SPRING (UPPER & LOWER)	
113	3-381-842-01	GEAR (TU)	
114	3-905-703-01	BELT	
115	3-905-712-01	SCREW (CLUTCH)	
116	X-3367-147-1	CLUTCH ASSY	

Ref. No.	Part No.	Description	Remark
117	3-905-695-01	FW (F) ASSY	
118	3-381-858-01	CAP (H)	
119	3-905-702-01	WASHER (IDLER)	
120	3-905-701-01	PULLEY (IDLER)	
121	3-905-718-01	SPRING	
122	3-381-850-01	ARM (PINCH) (F)	
123	3-905-735-01	SCREW (HEAD)	
124	3-381-883-01	SCREW (MOTOR)	
125	1-649-464-11	FLEXIBLE BOARD	
126	3-905-734-01	SPRING, LEAF	
127	3-905-704-01	WASHER (UPPER & LOWER)	
HP901	1-500-070-11	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3367-148-1	MOTOR ASSY	
S302	1-692-302-11	SWITCH, LEAF (POWER)	
S901	1-692-684-11	SWITCH, SLIDE (FWD/REV)	

SECTION 7
ELECTRICAL PARTS LIST

H/P **MAIN**

NOTE:

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviations
  CND : Canadian model
  G : German model
  IT : Italian model
  EE : East European model
  EA : Saudi Arabia model

Ref. No.	Part No.	Description	Remark
*	1-653-922-11	H/P BOARD *********	
		< JACK >	
J301	1-565-376-11	JACK, HEADPHONE (PHONES)	
**********			
*	A-3060-956-A	MAIN BOARD, COMPLETE (393:IT) **********	
*	A-3060-957-A	MAIN BOARD, COMPLETE (393:AEP, UK, E, G, EA) **********	
*	A-3060-958-A	MAIN BOARD, COMPLETE (393:US, CND) **********	
*	A-3060-959-A	MAIN BOARD, COMPLETE (395:IT) **********	
*	A-3060-968-A	MAIN BOARD, COMPLETE (395:US, CND) **********	
*	A-3060-969-A	MAIN BOARD, COMPLETE (395:AEP, UK, G) **********	
*	A-3060-976-A	MAIN BOARD, COMPLETE (393:EE) **********	
	3-334-019-01	JOINTER (B)	
	3-351-169-01	JOINT (C)	
	3-386-374-01	SCREW (1.7)	
	3-904-600-01	TERMINAL BOARD, BATTERY	
	3-911-203-01	SCREW	
	3-913-622-01	SPRING, BATTERY COIL	
		< CAPACITOR >	
C1	1-163-088-00	CERAMIC CHIP 5PF 50V (393:US, CND, IT/395:US, CND, IT)	
C1	1-163-089-00	CERAMIC CHIP 6PF 50V (393:AEP, UK, E, G, EA, EE/395:AEP, UK, G)	
C2	1-163-093-00	CERAMIC CHIP 10PF 5% 50V (393:EE)	
C2	1-163-101-00	CERAMIC CHIP 22PF 5% 50V (393:US, CND, AEP, UK, E, G, EA/395:US, CND, AEP, UK, G)	
C2	1-163-529-00	CERAMIC CHIP 22PF 5% 50V (393:IT/395:IT)	
C3	1-163-095-00	CERAMIC CHIP 12PF 5% 50V (393:EE)	
C3	1-163-103-00	CERAMIC CHIP 27PF 5% 50V (EXCEPT 393:EE, IT/395:IT)	
C3	1-163-104-00	CERAMIC CHIP 30PF 5% 50V (393:IT/395:IT)	
C4	1-163-091-00	CERAMIC CHIP 8PF 50V (393:US, CND/395:US, CND)	
C4	1-163-093-00	CERAMIC CHIP 10PF 5% 50V (393:AEP, UK, E, G, EA, EE/395:AEP, UK, G)	
C4	1-163-098-00	CERAMIC CHIP 16PF 5% 50V (393:IT/395:IT)	
C5	1-163-235-11	CERAMIC CHIP 22PF 5% 50V (393:US, CND, AEP, UK, E, G, EA/395:US, CND, AEP, UK, G)	
C5	1-163-237-11	CERAMIC CHIP 27PF 5% 50V (393:IT/395:IT)	
C5	1-163-243-11	CERAMIC CHIP 47PF 5% 50V (393:EE)	
C6	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C7	1-164-346-11	CERAMIC CHIP 1uF 16V	
C8	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C9	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C10	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C11	1-163-059-91	CERAMIC CHIP 0.01uF 10% 50V	
C12	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C13	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V (393:US, CND/395:US, CND)	
C14	1-126-153-11	ELECT 22uF 20% 6.3V	
C15	1-163-059-91	CERAMIC CHIP 0.01uF 10% 50V	
C16	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C17	1-126-154-11	ELECT 47uF 20% 6.3V	
C18	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C19	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C20	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C21	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C22	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C23	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V (393:US, CND/395:US, CND)	
C26	1-163-085-00	CERAMIC CHIP 2PF 50V (393:EE)	

MAIN

Ref.No.	Part No.	Description			Remark
C101	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C102	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C103	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C104	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C105	1-162-638-11	CERAMIC CHIP	1uF		16V
C106	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C107	1-164-346-11	CERAMIC CHIP	1uF		16V
C108	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (395)
C152	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V (395)
C153	1-135-176-21	TANTALUM CHIP	0.68uF	10%	20V (395)
C154	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V (395)
C155	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V (395)
C156	1-126-163-11	ELECT	4.7uF	20%	50V (395)
C201	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C202	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C203	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C204	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C205	1-164-346-11	CERAMIC CHIP	1uF		16V
C206	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C207	1-164-346-11	CERAMIC CHIP	1uF		16V
C208	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C251	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V (395)
C252	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V (395)
C253	1-135-176-21	TANTALUM CHIP	0.68uF	10%	20V (395)
C254	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V (395)
C255	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V (395)
C256	1-126-163-11	ELECT	4.7uF	20%	50V (395)
C257	1-126-153-11	ELECT	22uF	20%	6.3V (395)
C258	1-126-163-11	ELECT	4.7uF	20%	50V (395)
C301	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C302	1-164-346-11	CERAMIC CHIP	1uF		16V
C303	1-135-158-21	TANTALUM CHIP	15uF	20%	4V
C304	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C305	1-126-153-11	ELECT	22uF	20%	6.3V
C306	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C307	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C308	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C309	1-164-157-11	CERAMIC CHIP	0.068uF	10%	25V
C310	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C311	1-164-346-11	CERAMIC CHIP	1uF		16V
C312	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C313	1-164-346-11	CERAMIC CHIP	1uF		16V
C314	1-163-009-11	CERAMIC CHIP	1000PF	10%	50V
C315	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C351	1-126-154-11	ELECT	47uF	20%	6.3V (395)
C601	1-124-434-00	ELECT	220uF	20%	4V
C602	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C603	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C604	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

Ref.No.	Part No.	Description	Remark
		< FILTER >	
CF1	1-567-090-00	FILTER, CERAMIC (455MHz)	
CF2	1-567-097-61	FILTER, CERAMIC (10.7MHz)	
		< CONNECTOR >	
CN301	1-568-558-21	HOUSING, CONNECTOR (FPC) 8P	
		< BAND PASS FILTER >	
CP1	1-235-826-11	FILTER, BAND PASS (393:EE)	
CP1	1-236-711-21	FILTER, BAND PASS	(393:US, CND, AEP, UK, E, G, IT, EA/395)
		< VARIABLE CAPACITOR >	
CV1	1-151-653-11	CAP, VARIABLE (TUNING)	(393:US, CND/395:US, CND)
CV1	1-151-654-11	CAP, VARIABLE (TUNING)	(EXCEPT 393:US, CND/395:US, CND)
		< DIODE >	
D1	8-719-421-03	DIODE MA732	(393:US, CND/395)
D301	8-719-984-02	DIODE BR4371F	(BATT)
		< IC >	
IC1	8-759-230-39	IC TA8122AF	
IC301	8-759-257-22	IC LA4582BM-TLM	
IC351	8-759-701-07	IC NJM2063AM	(395)
IC601	8-759-260-31	IC MM1038AFF	
		< JUMPER RESISTOR >	
JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR2	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR4	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR5	1-216-296-00	METAL GLAZE 0 5% 1/8W	(393:US, CND/395:US, CND)
JR7	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR8	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR9	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR10	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR11	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR12	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR13	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W	(395)
JR15	1-216-296-00	METAL GLAZE 0 5% 1/8W	(395)
JR16	1-216-296-00	METAL GLAZE 0 5% 1/8W	(393)
JR17	1-216-296-00	METAL GLAZE 0 5% 1/8W	(393)
JR18	1-216-296-00	METAL GLAZE 0 5% 1/8W	(EXCEPT 393:US, CND/395:US, CND)
JR19	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR20	1-216-296-00	METAL GLAZE 0 5% 1/8W	

Ref. No.	Part No.	Description	Remark
JR21	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR30	1-216-296-00	METAL GLAZE 0 5% 1/8W	
		< COIL >	
L1	1-501-692-11	ANTENNA, FERRITE-ROD (MW)	(393:US, CND/395:US, CND)
L1	1-501-693-11	ANTENNA, FERRITE-ROD (MW)	(EXCEPT 393:US, CND/395:US, CND)
L2	1-426-578-11	COIL (WITH CORE) (RF) (393:EE)	
L2	1-460-120-11	COIL (WITH CORE)	(393:US, CND, AEP, UK, E, G, IT, EA/395)
L3	1-406-488-11	COIL (WITH CORE) (OSC) (393:EE)	
L3	1-460-130-11	COIL (WITH CORE)	(393:US, CND, AEP, UK, E, G, IT, EA/395)
L4	1-406-375-21	COIL (OSC)	
L5	1-410-997-31	INDUCTOR CHIP 2.2uH	
L301	1-410-997-31	INDUCTOR CHIP 2.2uH	
L302	1-410-997-31	INDUCTOR CHIP 2.2uH	
L303	1-410-997-31	INDUCTOR CHIP 2.2uH	
		< TRANSISTOR >	
Q1	8-729-403-17	TRANSISTOR XN1215	
Q2	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3	8-729-102-07	TRANSISTOR 2SC2223-F13	(393:US, CND/395:US, CND)
Q4	8-729-900-52	TRANSISTOR DTC114YK (393:EE)	
Q101	8-729-424-67	TRANSISTOR UN2216	
Q201	8-729-424-67	TRANSISTOR UN2216	
Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
Q303	8-729-402-13	TRANSISTOR XN1501	
Q601	8-729-402-42	TRANSISTOR UN5213	
		< RESISTOR >	
R1	1-216-001-00	METAL CHIP 10 5% 1/10W	(393:US, CND, AEP, UK, E, G, IT, EA/395)
R1	1-216-295-00	METAL GLAZE 0 5% 1/10W	(393:EE)
R2	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R3	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	(395)
R3	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(393)
R4	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	(395)
R4	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(393)
R6	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R7	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R8	1-216-089-00	METAL GLAZE 47K 5% 1/10W	(393:US, CND/395:US, CND)
R9	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	(393:US, CND/395:US, CND)
R10	1-216-073-00	METAL CHIP 10K 5% 1/10W	(395)
R11	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R101	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R102	1-216-083-00	METAL CHIP 27K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R103	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R104	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R105	1-216-117-00	METAL CHIP 680K 5% 1/10W	
R106	1-216-043-00	METAL CHIP 560 5% 1/10W	(395)
R106	1-216-045-00	METAL CHIP 680 5% 1/10W	(393)
R107	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R109	1-216-234-00	METAL GLAZE 33K 5% 1/8W	
R151	1-216-112-00	METAL GLAZE 430K 5% 1/10W	(395)
R152	1-216-089-00	METAL GLAZE 47K 5% 1/10W	(395)
R153	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	(395)
R154	1-216-073-00	METAL CHIP 10K 5% 1/10W	(395)
R155	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R201	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R202	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R203	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R204	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R205	1-216-117-00	METAL CHIP 680K 5% 1/10W	
R206	1-216-043-00	METAL CHIP 560 5% 1/10W	(395)
R206	1-216-045-00	METAL CHIP 680 5% 1/10W	(393)
R207	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R209	1-216-234-00	METAL GLAZE 33K 5% 1/8W	
R251	1-216-112-00	METAL GLAZE 430K 5% 1/10W	(395)
R252	1-216-089-00	METAL GLAZE 47K 5% 1/10W	(395)
R253	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	(395)
R254	1-216-073-00	METAL CHIP 10K 5% 1/10W	(395)
R255	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R256	1-216-073-00	METAL CHIP 10K 5% 1/10W	(395)
R257	1-216-001-00	METAL CHIP 10 5% 1/10W	(395)
R301	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R302	1-216-117-00	METAL CHIP 680K 5% 1/10W	
R303	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R304	1-216-248-00	METAL GLAZE 120K 5% 1/8W	
R305	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R306	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R307	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R308	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R309	1-216-111-00	METAL CHIP 390K 5% 1/10W	
R310	1-216-033-00	METAL CHIP 220 5% 1/10W	
R311	1-216-043-00	METAL CHIP 560 5% 1/10W	
R312	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R601	1-217-905-11	METAL GLAZE 1.5 5% 1/10W	
R602	1-219-163-11	METAL GLAZE 1.1 5% 1/10W	
R603	1-216-045-00	METAL CHIP 680 5% 1/10W	
R604	1-216-121-00	METAL CHIP 1M 5% 1/10W	
		< VARIABLE RESISTOR >	
RV301	1-230-593-11	RES, VAR, CARBON 10K/10K (◿ VOL)	
RV601	1-238-594-11	RES, ADJ, CARBON 500	

MAIN

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S301	1-571-621-21	SWITCH, LEAF (AUDIO MUTE)	
S302	1-692-302-11	SWITCH, LEAF (TAPE POWER)	
S303	1-570-087-11	SWITCH, SLIDE (TAPE)	
S304	1-692-034-11	SWITCH, SLIDE (FUNCTION)	
S305	1-692-034-11	SWITCH, SLIDE (AVLS)	
S351	1-571-674-11	SWITCH, SLIDE (MEGA BASS)	
S352	1-570-675-11	SWITCH, SLIDE (DOLBY NR) (395)	
		< TRANSFORMER >	
T1	1-404-899-21	TRANSFORMER, IF	
		< THERMISTOR >	
TH601	1-809-003-11	THERMISTOR, POSITIVE	
TH602	1-809-275-21	THERMISTOR, POSITIVE	
		< VIBRATOR >	
X1	1-577-091-51	OSCILLATOR, CRYSTAL	
X2	1-567-097-61	FILTER, CERAMIC (10.7MHz)	

****

MISCELLANEOUS
****

125	1-649-464-11	FLEXIBLE BOARD	
HP901	1-500-070-11	HEAD, MAGNETIC (PLAYBACK)	
J301	1-565-376-11	JACK, HEADPHONE (PHONES)	
L1	1-501-692-11	ANTENNA, FERRITE-ROD (MW) (US, CND)	
L1	1-501-693-11	ANTENNA, FERRITE-ROD (MW)	(AEP, UK, G, IT, E, EA, EE)
M901	X-3367-148-1	MOTOR ASSY	
S302	1-692-302-11	SWITCH, LEAF (POWER)	
S901	1-692-684-11	SWITCH, SLIDE (FWD/REV)	

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ACCESSORIES & PACKING MATERIALS
****

	3-326-162-01	WASHER, POLYETHYLENE, SLIT
	3-378-331-11	SCREW, CARRYING CASE
	3-758-747-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH) (395:CND, AEP, UK, G, IT)
	3-758-747-21	MANUAL, INSTRUCTION (ENGLISH) (395:US)
	3-758-747-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (395:AEP, G, IT)
	3-758-945-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH) (393:CND, AEP, UK, E, G, IT, EA, EE)
	3-758-945-21	MANUAL, INSTRUCTION (ENGLISH) (393:US)
	3-758-945-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (393:AEP, G, IT)
	3-758-945-51	MANUAL, INSTRUCTION (POLISH, CZECH, HUNGARIAN, RUSSIAN) (393:EE)
*	3-913-140-01	CUSHION (UPPER) (US)
*	3-913-141-01	CUSHION (LOWER) (393:US)
*	3-913-145-01	INDIVIDUAL CARTON (393:CND)
*	3-913-147-01	INDIVIDUAL CARTON (393:AEP, UK, G, IT)
*	3-913-149-01	INDIVIDUAL CARTON (393:E, EA)
*	3-913-150-01	INDIVIDUAL CARTON (393:EE)
*	3-913-156-01	CUSHION (EXCEPT US)
*	3-913-157-01	INDIVIDUAL CARTON (395:CND)
*	3-913-159-01	INDIVIDUAL CARTON (395:AEP, UK, G, IT)
	3-913-600-01	BELT (395)
	3-913-621-01	BRACKET, BELT
	8-952-265-90	HEADPHONE MDR-E215/Y SET (YELLOW) (EXCEPT US, CND)
	8-953-580-90	HEADPHONE MDR-W07G SET (YELLOW) (US, CND)
	8-953-580-92	HEADPHONE MDR-W07G/GK SET (GREEN) (393:CND)
	8-953-580-93	HEADPHONE MDR-W07G/VK SET (VIOLET) (393:CND)

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****
HARDWARE LIST
****

#1	7-682-902-11	SCREW +PWH 2.6X5
#2	7-685-107-11	SCREW +P 2X12 TYPE2 NON-SLIT
#3	7-624-101-01	STOP RING 1.2 (E TYPE)
#4	7-685-102-19	SCREW (+BTP) (2X4)

English
94E09110-1
Printed in Japan
© 1994. 5
Published by Home A&V Products Div.
Quality Engineering Dept.

9-959-570-11

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

WM-FS393/FS395

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
WM-FS393/FS395

E Model
WM-FS393

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Change of the Outer Assy and wire

(ECN-WM400894, WM401309)

Page	Ref.No.	FORMER		NEW	
		Part No.	Description	Part No.	Description
22	13	3-913-604-01	WIRE (232mm)	3-913-604-21	WIRE (256mm)
	14	X-3368-376-1	OUTER ASSY (166mm)	*3-375-277-02	OUTER (180mm)
				*3-381-892-02	OUTER (190mm)

NOTE :

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

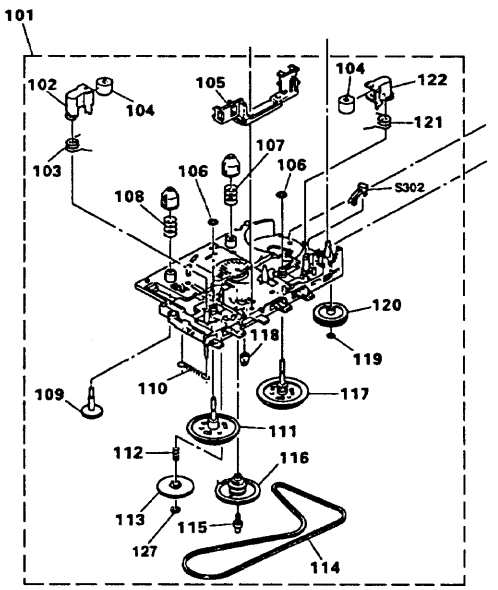
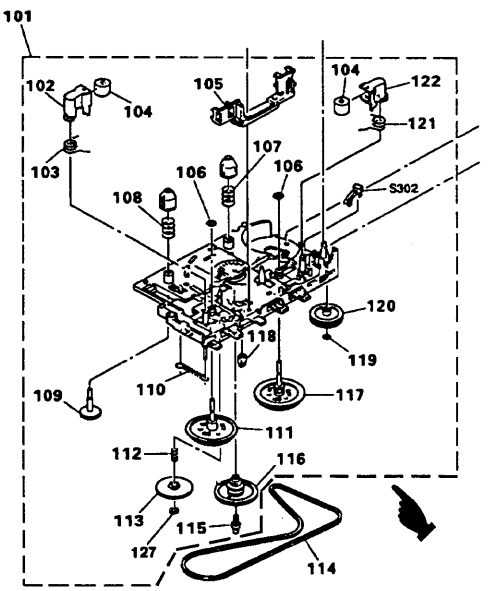
• CORRECTION

Correct your service manual as shown below.

☛ : **indicates corrected portion.**

Page	INCORRECT			CORRECT	
	Ref.No.	Part No.	Description	Part No.	Description
22	1	X-3368-374-1	CABINET (FRONT) ASSY (YELLOW, GREEN, VIOLET) (393 : CND)	X-3368-374-1	CABINET (FRONT) ASSY (YELLOW) (393 : CND)
				X-3369-675-1	CABINET (FRONT) ASSY (GREEN) (393 : CND)
				X-3369-676-1	CABINET (FRONT) ASSY (VIOLET) (393 : CND)
				X-3370-080-1	CABINET (FRONT) ASSY (GREEN) (395 : US)
				X-3370-081-1	CABINET (FRONT) ASSY (VIOLET) (395 : US)

(RPC-95048)

Page	INCORRECT	CORRECT
24	**6-3. MECHANISM DECK SECTION (MF-WMFS395)** 	**6-3. MECHANISM DECK SECTION (MF-WMFS395)** 

(SPM-95019)

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

English
95F0493-1
Printed in Japan
© 1995.6

9-959-570-81

Published by Home A&V Products Div. Quality Engineering Dept.